



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/534,167	05/05/2005	Tom Barker	60257.US	9966
408	7590	08/07/2007		
LUEDEKA, NEELY & GRAHAM, P.C.			EXAMINER	
P O BOX 1871			SAWHNEY, HARGOBIND S	
KNOXVILLE, TN 37901			ART UNIT	PAPER NUMBER
			2885	
			MAIL DATE	DELIVERY MODE
			08/07/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/534,167	BARKER, TOM
	<b>Examiner</b>	<b>Art Unit</b>
	Hargobind S. Sawhney	2885

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 05 May 2005.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-18 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____ .                                    |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>6/29/05</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application |
|  | 6) <input type="checkbox"/> Other: _____.                         |

## DETAILED ACTION

1. The preliminary amendment filed on May 5, 2005 has been entered. Accordingly:
  - The specification has been amended; and
  - Claims 1, 3-15 and 17 have been amended.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3, 5, 9, 11-15, 17 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent No.: 5,819,454 (Rosenitsch).

Regarding claims 1-3, 5 and 9, 11-15, 17 and 18, Rosenitsch an assembly (Figure 4) comprising:

- A visual display 2' – the combination of elements 2 and 3 - cover with an array of pixels 2 (Figure 2) aligned with an array of contiguous, tubular, reflective cells 5, each having opening at its both – upper and lower ends – ends (Figure 4, column 2, lines 16-22); a transparent cover 4 including a lens 7 in each of the open ends on the side of array – upper opening – (Figure 4, column 2, lines 24-26); the array of the cells including a mesh of substantially square apertures (Figures 1 and 2, column 2, lines 16-22);

- A load-bearing bottom sheet 3 (Figure 4, column 2, line 14); the cover sheet 4 pressed into the grid shapes for weather proofing- operational requirement fulfilled by making element 6 and 4 tight for preventing transitional emission of radiation (Figure 4, column 2, lines 28-32); each of the cover sheet 4 segments being a lens 7 (Figure 4, column 2, line 16); the cover sheet 4 provided with surface treatment for optical improvement- tinted with a color - (Figure 4, column 1, lines 51 and 52); the lens means 7 arranged between the array of cells 5 and the cover sheet 4 (Figure 4, column 2, lines 32-34); the array of cells 5 sandwiched between the cover sheet 4 and the visual display 2' (Figure 4); and the plurality of discrete light sources 2 arranged in rows, each row having light sources 2 offset with respect to the light sources 2 of the adjacent row (Figure 2).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No.: 5,819,454 (Rosenitsch) in view of US Patent No. 4,754,202 (Havel).

Rosenitsch an assembly (Figure 4) comprising an array of reflective cells 1 discussed in section 3 above. However, Rosenitsch does not specifically teach each of the cells including a light guide.

On the other hand, Havel discloses a display panel (Figure 7) including an array of cells 23a defined by vertically extending walls 31a and 13b; and each cell including a light guide 26 (Figure 7, column 4, lines 34-37).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the assembly of Rosenitsch by providing the light guide received in each of the cells as taught by Havel for the benefits of uniformly scattering of light emitted by the light source positioned in each cell. Uniform scattering of light is desirable for uniform illumination of a display.

6. Claims 4, 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No.: 5,819,454 (Rosenitsch) I view of French Patent No. FR 2,563,929 A (Thery).

Regarding claims 4, 6 and 8, Rosenitsch an assembly (Figure 4) comprising an array of reflective cells 1 discussed in section 3 above. However, Rosenitsch does not specifically teach: an array of cells including a mesh of hexagonal cells; each of the cells including a parabolic reflector coaxial to the pixel of the display; and each of the reflective cells provided with surface treatment.

On the other hand, Thery discloses a display panel 1 (Figures 2 and 3, English translated abstract) including an array of reflective, hexagonal cells 2 ; each of the cells

including a parabolic reflector (Figures 2 and 3, English translated abstract); and each of the reflective cells provided with surface treatment – coated with reflective material -.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the assembly of Rosenitsch by providing:

- An array of cells including a mesh of hexagonal cells as taught by Thery for the benefits of optimum arrangement for accommodation of large number of cells in the required area of the illumination device;
- Providing parabolic reflector as taught by Thery for the benefits of providing illumination with collimated light rays desired for directing light effectively; and
- providing surface treatment as taught by Thery for the benefit of efficient reflection of light in the predetermined direction.

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No.: 5,819,454 (Rosenitsch) I view of German Patent No. DE 10006164 A1 (Heidelberger).

Regarding claim 10, Rosenitsch an assembly (Figure 4) comprising a lens means arranged between the array of cells and a cover sheet as applied to claim 15 discussed in section 3 above. However, Rosenitsch does not specifically teach the cover including either glass or plastic.

On the other hand, Heidelberger discloses a display panel including: an array of cells covered attached to a transparent glass cover 6 (Figures 1, English translated abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the assembly of Rosenitsch by attaching the glass cover as taught by Heidelberger for the benefits of transmitting light through a material, which is tough and resistant to thermal, chemical and environmental deteriorating factors.

8. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No.: 5,819,454 (Rosenitsch) I view of US Patent No. 3,194,954 (Locke).

Regarding claim 16, Rosenitsch an assembly (Figure 4) comprising a lens means arranged between the array of cells and a cover sheet as applied to claim 15 discussed in section 3 above. In addition, Rosenitsch teaches the cover being installed with press-fit instead of using an adhesive between the cells and cover sheet as claimed by the applicant.

On the other hand, Locke discloses a display panel including: an array of cells 1 covered attached to a transparent cover 3 with an adhesive (Figures 1 and 2, column 1, lines 57 and 58).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the assembly of Rosenitsch by attaching the transparent cover to the cell grid with adhesive as taught by Locke for the benefits of structurally secured mounting with less stringent dimensional tolerances.

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Teshima et al. (US Patent No.: 4,271,408), Latz et al. (US Patent No.: 4,603,496), Kashiwabara et al. (US Patent No.: 5,164,715), Miura (US Patent No.: 5,647,152), Belfer (US Patent No.: 5,873,645), Zhang et al. (US Patent No.: 5,924,785)

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hargobind S. Sawhney whose telephone number is 571 272 2380. The examiner can normally be reached on 8:00 AM - 4:30 PM30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Jong-Suk (James) Lee can be reached on 571 272 7044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

7/20/2007 /Hargobind S. Sawhney/  
Examiner, Art Unit 2885